

Candidate Name	Centre Number	Candidate Number
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**GCSE**

140/04

**DESIGN AND TECHNOLOGY**

**PAPER 2**

**FOCUS AREA: GRAPHIC PRODUCTS**

**Higher Tier**

A.M. MONDAY, 2 June 2008

1½ hours

	Leave Blank
Question 1	
Question 2	
Question 3	
Question 4	
Question 5	
TOTAL MARK	

### ADDITIONAL MATERIALS

You will need basic drawing equipment and coloured pencils for this examination.

### INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

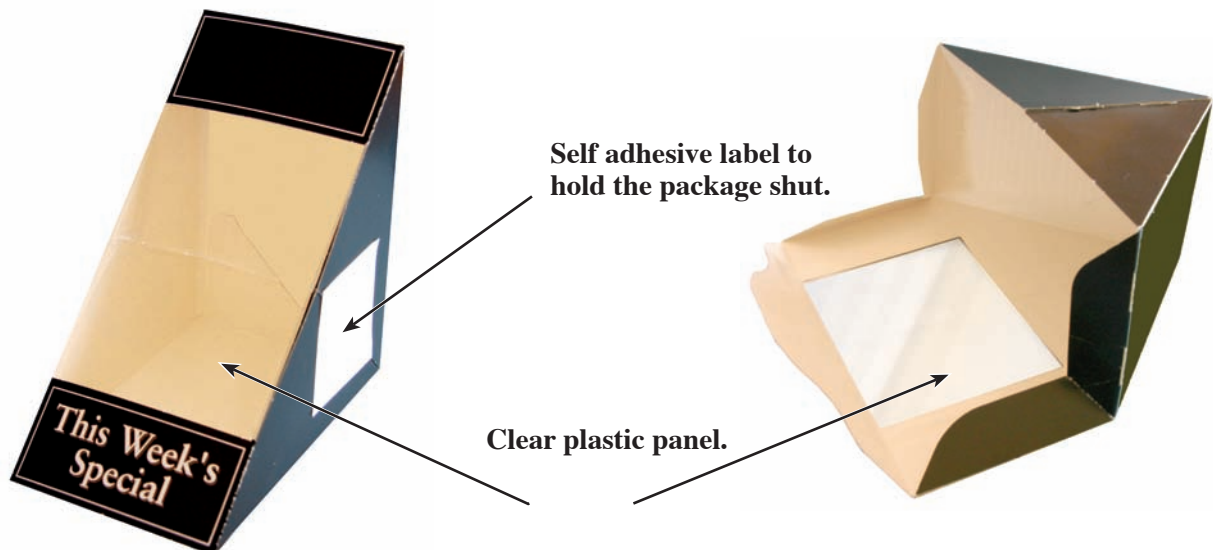
Write your answers in the spaces provided in this booklet. Where the space is not sufficient for your answer, continue the answer at the back of the book, taking care to number the continuation correctly.

### INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

Answer **all** questions in the spaces provided.

1. Study the photographs below.  
They show a package for two sandwiches.  
The package is made from folded card that has been printed.



- (a) A design specification is written before the package is designed.  
State **three** specification points about the function of the package.

Point 1: ..... [2]

.....

Point 2: ..... [2]

.....

Point 3: ..... [2]

.....

(b) When the package is **industrially manufactured** tens of thousands will be made.

(i) State the name and thickness of a suitable type of card to make the package. [2]

Name: .....

Thickness: .....

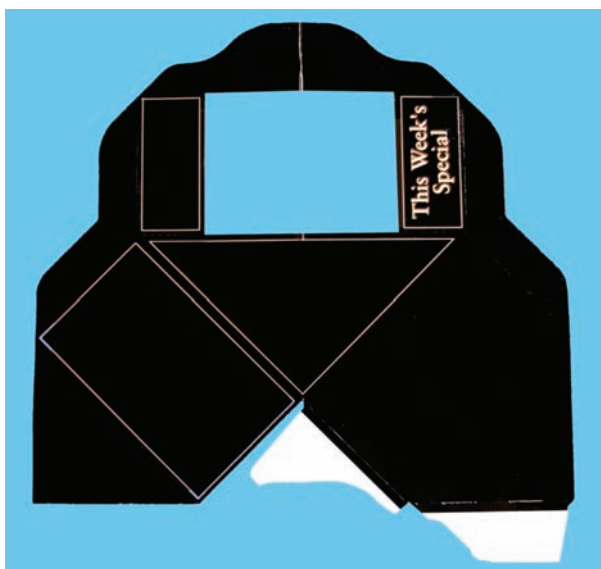
(ii) Explain why the material specified above would be suitable. [2]

.....  
 .....  
 .....

(c) The words “This Week’s Special” are to be printed using a *smart* material ink that will change colour according to the temperature of the package.

State the name of the ink: ..... [1]

(d) Study the photograph below which shows the net of the sandwich package.



**The white areas of the net are used for fixing it together.**

(i) State the name of the parts that are used for fixing the net together. [1]

.....

(ii) The white areas of the net seem to be a strange shape. Explain the reason for this. [3]

.....  
 .....  
 .....

- (e) You decide to make five (5) exact copies of a prototype package to test them.  
The three main steps in making the packages are listed below.  
They are not in the correct order.

CUT OUT	DRAW THE NET & MAKE A TEMPLATE	SCORE, FOLD AND FIX TOGETHER
---------	-----------------------------------	---------------------------------

Put the steps in the correct order and describe how each step would be carried out.

Step 1: ..... [1]

Description: ..... [2]

.....

.....

.....

.....

Step 2: ..... [1]

Description: ..... [2]

.....

.....

.....

.....

Step 3: ..... [1]

Description: ..... [2]

.....

.....

.....

.....

2. The drawing below shows the design for a sign.



- (a) **Tick (✓)** the name of the style of font used in the sign.

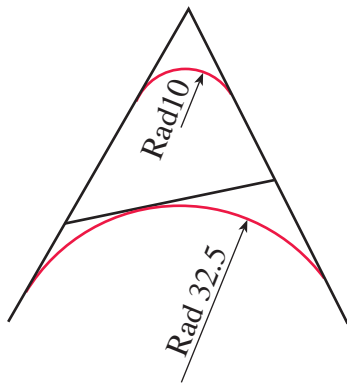
[1]

Old Style	<input type="checkbox"/>
Modern	<input type="checkbox"/>
Slab Serif	<input type="checkbox"/>

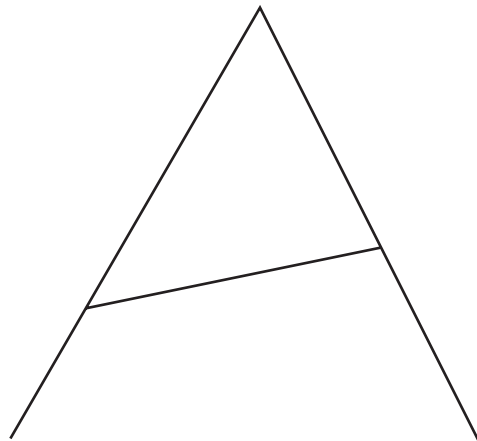
- (b) Complete the construction below by accurately adding the two arcs. Show all parts of your construction.

[8]

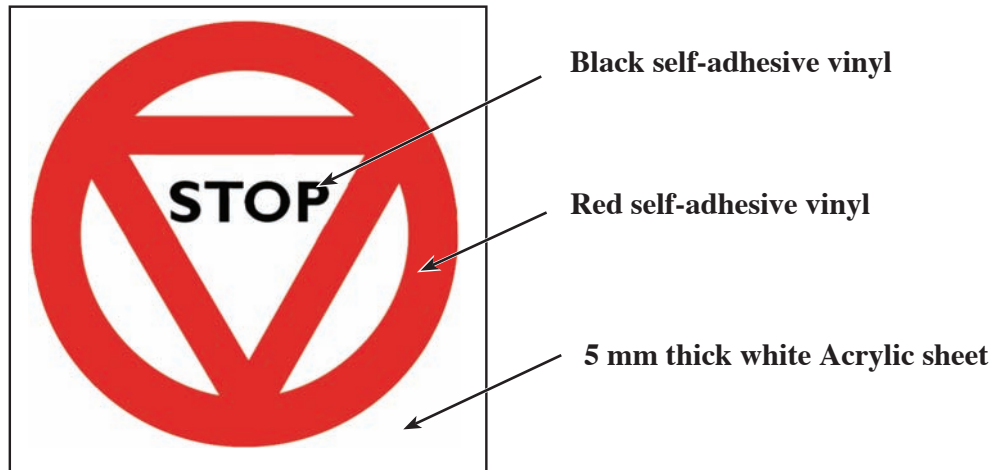
Dimensions for your construction.



Your construction.



- (c) It is decided to make a sign shown below by cutting self-adhesive vinyl using a CAM machine.



- (i) Name a suitable computer controlled machine that could be used to make the sign. [2]

- (ii) There are five major steps in making the red part of the sign.  
State what has to be done in each step.

*The first and last steps have been done for you.*

[6]

Switch on the computer and load up the drawing of the red part of the sign.
Apply the cut out shapes to the acrylic sheet and remove application tape.

- (iii) State **one** advantage and **one** disadvantage of making signs using computer controlled machinery. 2 × [2]

I .....

.....

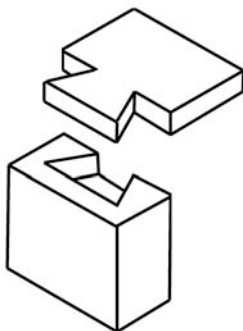
II .....

.....

.....

3. (a) There are many different ways of drawing.  
State the exact full name used to describe each type of drawing shown below.

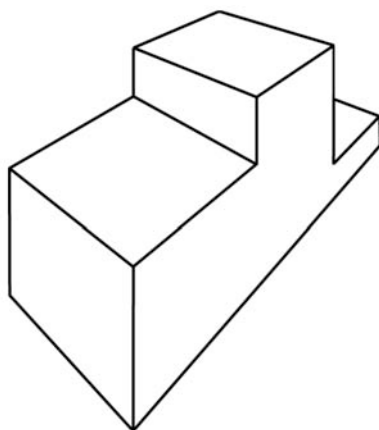
(i)



.....

..... [2]

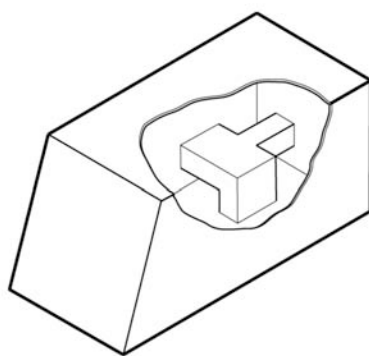
(ii)



.....

..... [2]

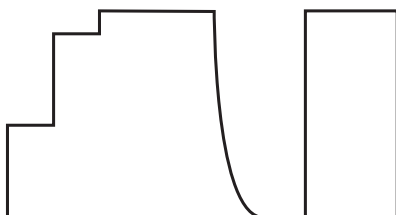
(iii)



.....

..... [2]

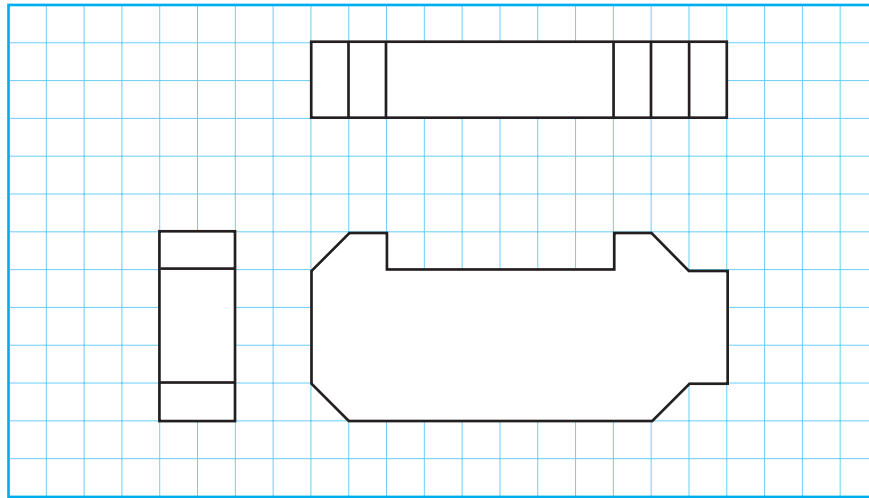
(iv)



.....

..... [2]

- (b) Study the drawing shown below.  
It shows the outline of a key tag to be given away as a free gift.



In the space provided make a two point perspective sketch of the key tag shown above.  
The drawing has been started for you with the horizon and the vanishing points.

**Marks will be awarded for:**

- drawing lines correctly to the vanishing points;
- drawing the key tag in correct proportion;
- quality of the linework.

[5]  
[3]  
[2]





4. (a) Computer Aided Design (CAD) is often used in Graphic Products.

(i) State **two** advantages of using CAD compared to drawing by hand.

Advantage 1: ..... [2]

.....

Advantage 2: ..... [2]

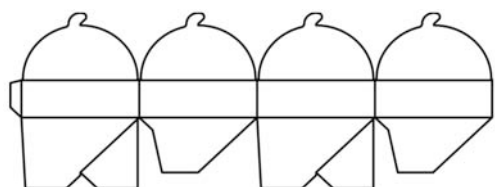
.....

(ii) State **one** disadvantage of using CAD compared to working by hand. [2]

.....

.....

(b) Bitmap and vector software is often used in Graphic Products.



**Tick (✓)** the most suitable type of software used to make the drawing shown alongside.

[1]

Bitmap/painting software	
Vector/drawing software	

(i) State the name of a software package you could use.

..... [1]

(ii) Give **two** specific reasons for your choice.

Reason 1: ..... [2]

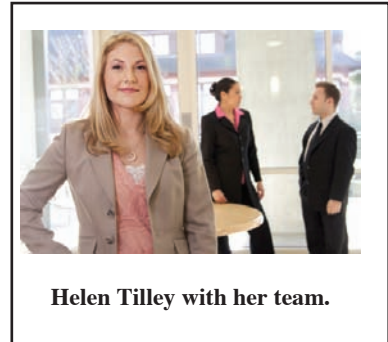
.....

Reason 2: ..... [2]

.....

5. Helen Tilley, an estate agent, provides postcards with details of the houses that are for sale. Each postcard has a photograph of the house on the front of the card and details of the house are on the back.

The estate agent gives her customers five cards at a time and needs a folder made from folded card to hold the five postcards.



The postcards are 150mm by 100mm and are printed on 600 micron thick card.

Front of postcard



Back of postcard

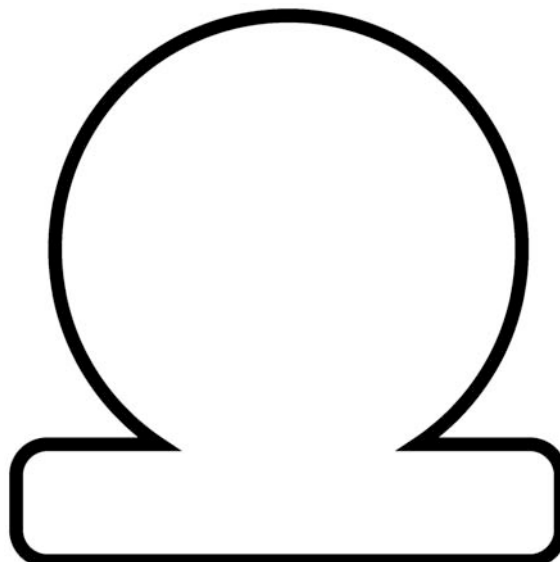


- (a) A stylish, imaginative logo is needed for the estate agent.  
In the shape drawn below, design a suitable logo and use the name **H. Tilley**.  
The logo must fill the outline shape drawn below.

**Marks will be awarded for:**

- using the name **H Tilley** and all the space in the outline shape;
- designing a stylish and imaginative logo;
- quality of drawing;
- appropriate use of colour.

[1]  
[4]  
[2]  
[2]



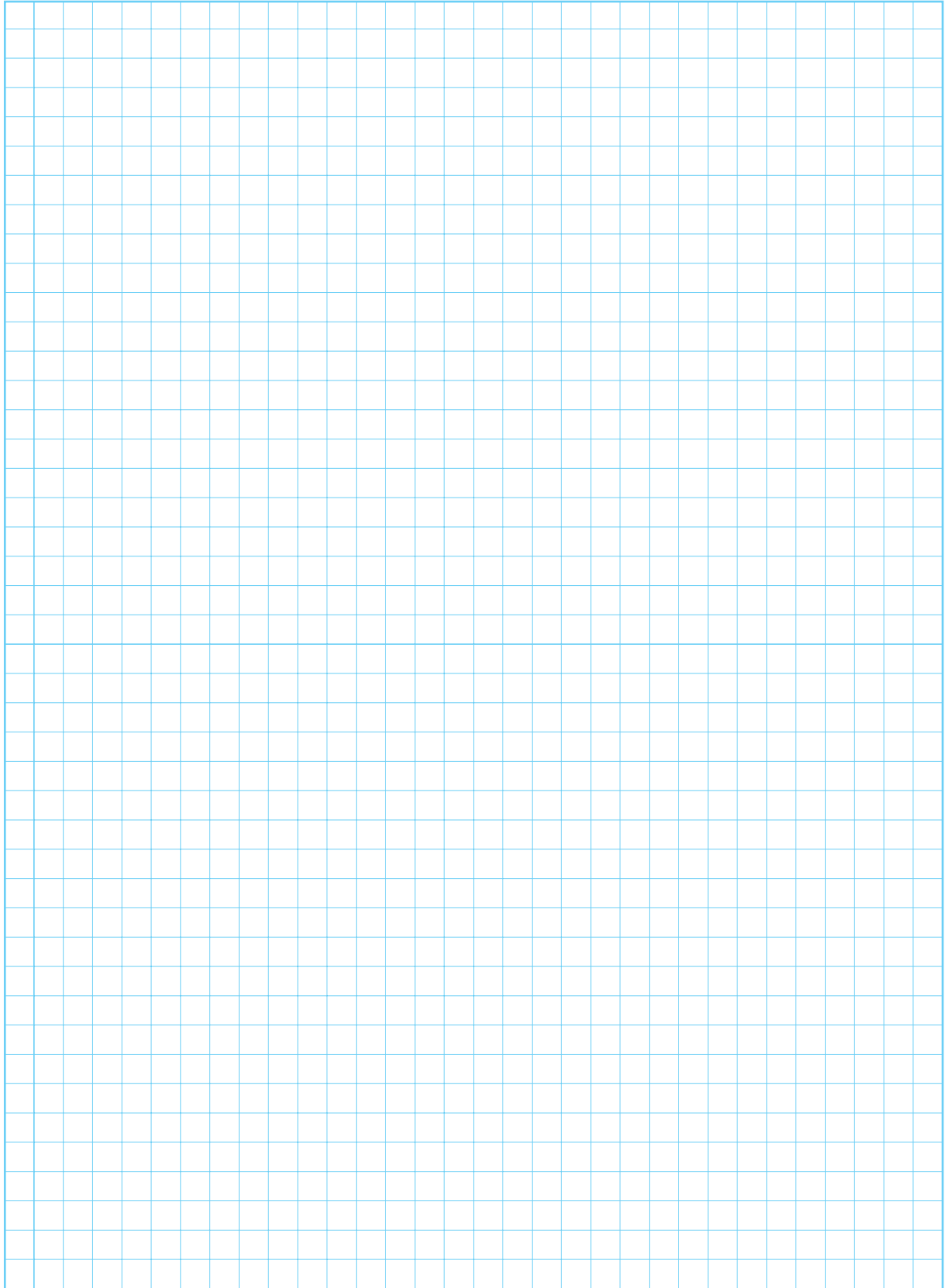
- (b) **Design** a package that:
- holds five postcards securely;
  - is made from folded card;
  - allows the customer to see part of the photograph on the front of one of the postcards;
  - has space for the logo of the estate agent to be printed on it;
  - has space on the package to show the address and phone number of the estate agent.

**Marks will be awarded for:**

- showing how the folder holds FIVE postcards; [1]
- showing the space for the logo, address and phone number; [1]
- showing how part of the image on the top card can be seen; [2]
- showing how the card folder can be made; [3]
- the quality of the sketches and notes. [3]

- (c) **Make** an accurate drawing of the net of your design for the folder.  
**Show** both fold lines and cutting lines.  
You must add the **three** (3) most important dimensions to your drawing.

[6]



This image shows a full page of white paper with horizontal dashed lines, typical of primary school writing paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.